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THE SUPERFUND CLEAN-UP TECHNOLOGY RESEARCH AND DEMONSTRATION ACT

SEPTEMBER 4, 1985.—Ordered to be printed

Mr. FUQUA, from the Committee on Science and Technology, submitted the following

REPORT

together with

ADDITIONAL VIEWS

[To accompany H.R. 3065 which on July 24, 1985, was referred jointly to the Committee on Energy and Commerce, the Committee on Public Works and Transportation, and the Committee on Science and Technology]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science and Technology, to whom was referred the bill (H.R. 3065) to amend the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 to authrize a program of research, development and demonstration for innovative or experimental treatment technologies for use in remedial actions, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

The amendments (stated in terms of the page and line numbers of the introduced bill) are as follows:

1. On page 5, line 14, strike the words, "shall, as he deems appropriate" and insert, "may, consistent with the provisions of this section".

2. On page 8, lines 7 and 8, strike the word "uncontrolled" and insert "hazardous waste".

3. On page 8, line 16, strike "60" and insert "30".

4. Page 10, beginning in line 6, strike the sentence beginning with "In evaluating the cost-effectiveness" and insert in lieu thereof the following:

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Any remedial action selected under section 104 for a facility at which a release or threatened release occurs shall require that level or standard of control of each hazardous substance or pollutant or contaminant at that facility which is necessary to protect human health and environment. In selecting a remedial action under section 104, the Administrator shall evaluate alternatives which achieve the requirements of the preceding sentence and shall assess the cost-effectiveness of such alternatives. In making such assessment, the Administrator shall specifically assess the long-term effectiveness of various alternatives, including an assessment of permanent solutions and alternative or innovative treatment technologies or resource recovery technologies that, in whole or in part, will result in a permanent and significant decrease in the toxicity, mobility, or volume of the hazardous substance, pollutant, or contaminant, taking into account each of the following:

(A) The long-term uncertainties associated with land disposal.

(B) The goals, objectives, and requirements of the Solid Waste Disposal Act.

(C) The persistence, degradability in nature, toxicity, mobility, and propensity to bioaccumulate of such hazardous substances and their constituents.

(D) The potential threat to human health and the environment associated with excavation, transportation, and redisposal.

(E) Short- and long-term potential for adverse health effects from human exposure.

(F) Long-term maintenance costs.

Following an evaluation under this subsection, the Administrator shall select that cost-effective remedial action which, to the maximum extent practicable, utilizes such permanent solutions and alternative or innovative treatment technologies or resource recovery technologies.

5. Page 15, after line 8, insert:

SEC. 9. SMALL BUSINESS PARTICIPATION.

The Administrator shall, to the maximum extent practicable, provide adequate opportunity for small business participation in the activities authorized under this Act.

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I. PURPOSE OF THE BILL

The purpose of the bill is to amend the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA", or "Superfund") to establish within the Environmental Protection Agency (EPA) a program of research, development and demonstration of alternative or innovative treatment technologies for use in remedial actions under the Superfund program.

II. COMMITTEE ACTIONS

HEARINGS

The Committee on Science and Technology has conducted an extensive review of currently available and potential treatment technologies and their use under the Superfund program through hearings held by both the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on Investigations and Oversight.

On May 2, 1985, the Subcommittee on Natural Resources, Agriculture Research and Environment held a hearing on innovative hazardous waste treatment technologies. At the hearing, the Congressional Office of Technology Assessment (OTA) released a report on "Superfund Strategies" which addressed the potential for alternative or innovative treatment technologies to improve significantly remedial actions taken under the Superfund program. The OTA "Superfund Strategies" Report (hereinafter referred to as the OTA Report) indicated that technologies were available, or were under development, which could provide permanent protection from releases of hazardous wastes at Superfund sites by destroying or detoxifying hazardous wastes. At the same time, the OTA Report noted numerous difficulties facing the development and use of such technologies, including the administration of the EPA's Superfund clean-up program.

As a result of the testimony received at the hearing conducted by the Subcommittee on Natural Resources, Agriculture Research and Environment, Congressman Torricelli introduced H.R. 2802, the "Superfund Clean-up Technology Research and Demonstration Act of 1985" on June 18, 1985, with six cosponsors.

On April 23 and May 18, 1985, the Subcommittee on Investigations and Oversight held hearings on innovative technologies for the permanent clean-up of hazardous waste, in Washington, D.C., and Union, Missouri respectively. The first hearing focused on inadequacies both in research opportunities and in health effects information, while the second hearing concentrated on public participation in the Superfund decisionmaking process.

Testimony by witnesses at both hearings underscored the need both for additional research into permanent clean-up technologies and for opportunities to demonstrate and prove the viability of such new technologies. As a result of the testimony received at the

hearings, Congressman Volkmer introduced H.R. 2865 on June 25, 1985.

The Subcommittee on Natural Resources, Agriculture Research and Environment held a hearing on H.R. 2802 on June 26, 1985. Testimony was received from Congressman James J. Florio, Congressman Harold M. Volkmer, EPA witnesses, environmental group representatives, and industry group representatives.

Committee Consideration

On July 23, 1985 the Subcommittee on Natural Resources, Agriculture Research and Environment considered H.R. 2802, and, a quorum being present, adopted an amendment in the nature of a substitute offered by Congressman Torricelli to incorporate a number of improvements reflecting comments received from EPA, from industry representatives and environmental group representatives. The amendment also reflects comments and suggestions offered by Mr. Florio, Mr. Lujan, Mrs. Schneider, Mr. Ritter, and Mr. Henry, as well as language suggested by Congressman Volkmer incorporating some provisions of H.R. 2865. By unanimous voice vote, the Subcommittee ordered a clean bill passed and reported to the full Committee.

On July 24, 1985, a clean bill incorporating the amendment in the nature of a substitute adopted by the Subcommittee was introduced as H.R. 3065, the "Superfund Clean-up Technology Research and Demonstration Act" by Mr. Torricelli for himself, Mr. Volkmer, Mr. Scheuer, Mr. Fuqua, Mr. Lujan, and Mrs. Schneider. The bill was retained in full Committee, and acted on July 25, 1985, when the Committee adopted several amendments and ordered the bill, as amended, reported.

Explanation of Amendments

The Committee adopted several amendments to H.R. 3065, as set out above. The first amendment includes three clarifying changes, considered and adopted en bloc. The first one clarifies the language of the proposed new section 16(d) so that the subsection is tied in with the rest of the section and cannot be used as an independent authority. The second change substitutes words that have been defined, "hazardous waste," for a word that has not been defined, "uncontrolled." The third change reduces the layover time before the Administrator can begin projects over $5 million from 60 to 30 days.

The second amendment substitutes new text for Section 6 of the bill. The substitute language is intended to clarify what is intended by cost-effective action and provides that the Administrator shall specifically assess, in selecting various remedial alternatives, the long-term effectiveness of various alternatives, including permanent solutions and alternative and innovative treatment technologies. Under the amendment as adopted, the Administrator is required to select that cost-effective remedial action which, to the maximum extent practicable, utilizes permanent solutions and alternative or innovative treatment technologies. The language of the substitute is very similar to Sec. 121(c) of H.R. 2817, the "Superfund Amendments of 1985", as amended and reported by the

House Energy and Commerce Committee on August 1, 1985. (H. Rep. 99-253, Part I).

The third amendment requires the Administrator of the EPA, to the maximum extent practicable, to provide adequate opportunity for small business participation in the research and demonstration program created by the bill.

III. BACKGROUND AND NEED FOR LEGISLATION

A. Hearings and Testimony

1. CLEAN-UPS UNDER THE SUPERFUND PROGRAM

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, ("CERCLA" or "Superfund"), which established federal authority to clean up abandoned hazardous waste dump sites and to respond to emergencies caused by releases of hazardous substances. The Act also created a Hazardous Substances Response Trust Fund to pay for clean-up between 1981 and 1985.

A number of recent studies, including the OTA Report and the Government Accounting Office (GAO) report, "EPA's Inventory of Potential Hazardous Waste Sites is Incomplete", indicate that the number of hazardous substances facilities which will require clean-up actions under the Superfund program will substantially increase in the near future. While EPA estimates the there are a total of 2,000 sites that are likely to be placed on the National Priority List, the OTA Report estimates the total number of such sites to be closer to 10,000.

An examination of the EPA's efforts to clean up Superfund sites indicates that, for the most part, EPA relies heavily on a combination of removal of contaminated materials to disposal facilities permitted under the Resource Conservation and Recovery Act ("RCRA") and construction of physical barriers to prevent the migration of remaining hazardous wastes into the groundwater and surrounding environment. While such methods are likely to reduce the risk of release of hazardous substances in the short term, serious questions have been raised about the safety, efficacy, and cost of such measures over the long-term.

The OTA Report, for example, noted a number of serious problems with such approaches. First, moving the waste from one site to another simply shifts the risk from one community to another. For example, risks of accidents during transportation expose a potentially wide area to toxic waste spills. Further, the fact that the receiving site may be operating under a RCRA permit is no assurance that there will be no further risks from the waste. Recent reports have indicated that a number of RCRA sites which have received Superfund wastes are themselves leaking and contaminating groundwater. In addition, about half of the 1300 RCRA land disposal sites with interim permits are not in compliance with groundwater monitoring requirements and may face closing when their interim permit status ends in November, 1985. The OTA Report extimated that up to half of the present RCRA disposal sites will themselves become Superfund sites.

The OTA Report also questioned the adequacy of reliance on containment barriers to prevent the migration of wastes from the site, indicating that the techniques have been developed out of the construction industry and have not been tested for long-term efficacy for containing hazardous wastes. According to the OTA Report, there is a significant risk that containment barriers will fail at some point, leading to migration of hazardous substances into the groundwater and into the environment. The problems of attempting to contain wastes is compounded by the lack of knowledge concerning groundwater behavior and the difficulty of assessing any of the hydrogeological characteristics of a given site. Some of the case studies included in the OTA Report, particularly the Stringfellow site, provide examples of some of the difficulties in assessing sites.

2. ALTERNATIVE AND INNOVATIVE TREATMENT TECHNOLOGIES

Witnesses at the hearing before the Subcommittee on Natural Resources, Agriculture Research and Environment testified that a number of technologies are available, or are in an advanced stage of development, which can treat hazardous wastes through physical, chemical, or biological means to reduce the toxicity, mobility or volume of the wastes. Such permanent treatment of hazardous wastes clearly offers a long-term protection not afforded by conventional removal, storage, and containment methodologies. In addition, many of the technologies can be applied on-site, reducing the risk of release during transportation or the necessity for temporary storage. The OTA Report identified 26 promising new technologies with a wide variety of applications.

Despite the promise of such permanent treatment technologies, industry witnesses at the hearing before the Subcommittee on Natural Resources, Agriculture Research and Environment confirmed the findings of the OTA report that EPA was not considering such technologies in Superfund clean-ups and was not promoting the development of such technologies. A number of factors appear to explain this situation.

Several of the witnesses identified certain provisions within CERCLA which have the effect of discouraging the selection of permanent treatment technologies in Superfund clean-ups. Section 104(c)(4) of CERCLA requires the Administrator to choose a "cost-effective" remedial response which balances the need for protection of the public health and environment against the availability of amounts from the Trust Fund. This emphasis on "cost-effectiveness", together with the fund-balancing test, frequently leads to the choice of the lowest cost remedial measures, with the effect of excluding permanent treatment technologies which usually have higher initial capital costs than conventional removal and containment measures.

Similarly, the cost-sharing provisions of CERCLA also favor the choice of conventional removal and containment techniques. CERLA permits EPA to pay up to 90 percent of the initial cost of clean-up, while States are required to pay all of the future maintenance and operation costs. This cost-sharing provision creates an incentive for EPA to choose remedial actions which involve lower

initial capital costs but higher long-term maintenance and operation costs.

Other witnesses noted that the lack of clear-cut clean-up standards in CERCLA also discouraged the use of permanent treatment technologies.

Witnesses from the industry also testified that EPA had no program which could assist them in determining whether their technologies could be useful in Superfund remedial actions. While EPA requires new technologies to demonstrate their effectiveness before it will determine whether the technology is appropriate for use in Superfund clean-ups, the agency gives no guidance as to what data it would require to demonstrate such effectiveness. Some developers have been faced with the frustrating dilemma of having EPA reject proposals to field test new technologies precisely because the developer did not have the supporting data which could only be obtained by field testing.

Developers also testified about frustrating encounters with bureaucratic delays. Applications of new technologies for necessary permits, approval of testing protocols, and assistance in obtaining samples of, or access to, wastes at Superfund sites, have frequently snarled developers in time-consuming regulatory red tape, significantly raising the costs and risks of new technology development.

3. EPA TESTIMONY

While EPA indicated its general agreement with the goal of increased use of permanent clean-up technologies, and cited recent policy announcements to that effect, EPA testified before the Subcommittee on Natural Resources, Agriculture Research and Environment that it did not support H.R. 2802. EPA contended that new authority was not needed since it already had the ability to conduct research and development activities under existing RCRA authority. EPA also stated that it was opposed to the use of Superfund to support fundamental, as opposed to applied, research. Further, EPA criticized the provision in H.R. 2802 requiring the Administrator to designate one site in each EPA region as a demonstration site on the ground that it did not grant the EPA sufficient flexibility to choose the most appropriate number and location of demonstration sites. EPA also raised concerns about the liability that would be faced by those conducting field demonstrations and research on Superfund sites for damages that could stem from the failure of an experiment or demonstration. Finally, EPA expressed concerns that demonstrations on Superfund sites could result in higher clean-up costs to be borne by responsible parties.

As discussed below in the Explanation of the Bill, the Committee believes that the legislation as reported responds directly to the concerns raised by EPA.

B. Existing EPA Research and Demonstration Program

EPA's present research and demonstration program for Superfund clean-up technologies is limited. By statute, the Trust Fund established under CERCLA for cleaning up Superfund sites cannot be tapped for research other than research which is directly relevant to short-term, emergency and remedial response activities,

such as site assessment and sampling. The Superfund research program applies completed research and expertise obtained from other programs to the clean-up of Superfund sites. While this program has provided some funding for in-house research of incineration technologies for Superfund clean-ups, it is not a source of funding for permanent clean-up technology research by universitities or the private sector.

EPA also conducts some research relevant to Superfund under the authority of RCRA. The environmental engineering and technology research program has recently examined incineration and other treatment technologies, in-situ methods for the destruction of dioxins, and the operational characteristics of treatment and disposal of hazardous wastes. The monitoring research program involves developing procedures for characterizing wastes and techniques for field monitoring of hazardous waste sites. Under this program, EPA's Hazardous Waste Engineering Research Laboratory in Cincinatti has examined 21 thermal treatment processes.

The RCRA research program, however, does not provide funding for unsolicited proposals from the private sector for research or demonstrations of Superfund clean-up technologies. Further, the focus of the RCRA program is on disposal, containment, and storage technologies, and treatment of industrial hazardous waste streams. While some of the research is relevant to Superfund clean-ups, problems of particular importance to Superfund, such as the difficulty of characterizing and treating complex mixtures of hazardous wastes found in abandoned waste dumps, the difficulties of site characterization and assessment, and the need to develop technologies which can be safely used in Superfund sites, are not adequately addressed in EPA's RCRA hazardous waste research program.

EPA's academic research centers program are sources of funding for university research. EPA funds several university research centers which conduct multidisciplinary research in hazardous waste, including a research center for Advance Control Technology at the University of Illinois at Urbana, a Waste Elimination research center at the Illinois Institute of Technology and the University of Notre Dame, and a hazardous waste research center at Tufts University. EPA presently supports each of the Centers with approximately $500,000 in funding every year, but the Administration's fiscal year 1986 budget request proposed cutting the research centers program by 35 percent.

Finally, EPA's competitive peer-reviewed grant program and its Small Business Innovation Research program are, according to the OTA Report, viewed by industry as one of the few sources of funding for private sector research for treatment technologies. However, limited funding and other restrictions have hampered the utility of these programs. Along with the research centers program, the competitive grants program was slated for a 35 percent reduction in the Administration's fiscal year 1986 budget request. Further, only non-profit entities are eligible for funding under the competitive grants program.

C. Need for Legislation

1. BUILDING ON THE EPA SUPERFUND RESEARCH PROGRAM

The EPA already has in place a substantial in-house research program with respect to hazardous waste, including a substantial engineering and environmental technology component with the potential capability of conducting high-quality research on Superfund clean-up technologies. EPA's existing extramural research program has developed productive relationships with the nation's leading universities on hazardous waste research, and with waste management firms and other private sector entities involved with treatment research. While research conducted under these programs has been of a high quality, it has had only limited application to Superfund clean-up problems.

The bill builds upon EPA's existing research capabilities to ensure the development and use of permanent solutions to the problems of hazardous waste sites. The bill supplements EPA's present expertise in hazardous waste research by establishing a research program specifically designed to develop, test and evaluate permanant Superfund clean-up technologies. Further, the bill directs a solution-oriented approach to EPA's research. By focusing on the need to apply the results of research to Superfund clean-up problems, the bill furthers cooperation and coordination between EPA's research office and its regulatory office, which ultimately has the legal responsibility to choose the methods for cleaning up Superfund sites.

The bill would expand EPA's research program to make better use of the expertise existing in universities and in the private sector. The Committee believes that the participation of the private sector, which is a major source of innovation and technology development, is particularly critical for a successful research program in this particular area.

The Committee believes that a sustained program of research and demonstration of alternative and innovative treatment technologies is most appropriately located at the EPA. Putting the program at EPA takes advantage of EPA's existing expertise and established contract and grant procedures, with minimal additional burden and cost. EPA is the agency charged by Congress with the duty to clean up the nation's hazardous waste sites. The Administrator of the EPA alone has the legal responsibility to choose the remedial measures to be taken to clean up a Superfund site. A research program designed to provide solutions for those problems properly belongs at the EPA and can be undertaken without undue delay.

2. ADDITIONAL FUNDING FOR EXTRAMURAL RESEARCH BY THE PRIVATE SECTOR

The market for Superfund site clean-up technologies is unique, in part because the market is largely dependent upon the EPA's actions. Since the EPA has the legal responsibility to choose the technology for cleaning up Superfund sites, only those technologies which are likely to receive EPA's approval are likely to be the subject of private development and funding. As noted above, however,

industry witnesses testified concerning their perception that EPA's regulatory program is biased against permanent treatment technologies in favor of removal, storage and containment technologies. In addition, in the few cases where the private sector has developed promising technologies, EPA's failure to evaluate them for use in Superfund cleanups has added to the perception that the EPA is not interested in permanent treatment solutions.

The Committee believes that public funds are needed to supplement, but not duplicate, the research and development of new treatment technologies occuring in the private sector. Given the present regulatory factors hindering EPA acceptance of permanent treatment technologies, the private sector is not likely to provide sufficient funding for the development and demonstration of new treatment technologies.

While some firms have sufficient financial resources to conduct their own demonstration projects without government funding, such firms lack an incentive to invest in expensive demonstration projects in the face of EPA bureaucratic obstacles and an uncertain market created by EPA's implementation of the Superfund program. A successful state program in Missouri suggests that some firms may be willing to fund demonstration projects when agencies are willing to cooperate and provide access to hazardous waste sites for research purposes.

Other firms, however, perceive that it is growing more difficult to raise capital from the private sector for demonstration purposes. The lack of private capital creates a particular hardship for smaller firms and entrepreneurs who have developed a new technology to the point where it is ready for demonstration, typically the most costly phase of research. Yet without such demonstrations, EPA will not consider the technology to be sufficiently proven for the purposes of use in Superfund clean-up programs.

IV. EXPLANATION OF THE BILL

Section 2—Findings and Purpose

This section sets out the Congress' findings that the EPA's practice of relying upon removal and containment measures does not provide permanent protection, and that alternative or innovative treatment technologies which permanently alter the composition of hazardous waste to reduce the toxicity, mobility of volume of wastes can provide significantly greater long-term protection. Congress also finds that various regulatory factors have often inhibited the use and development of new technologies, and that a sustained program of research, development and demonstrations of alternative or innovative treatment technologies for use in Superfund clean-ups is needed.

Section 3—Alternative or Innovative Treatment Technology Research and Demonstration Program

Section 3 authorizes and directs the Administrator of EPA to carry out a program of research, evaluation, testing, development and demonstration of alternative or innovative treatment technologies to be used in remedial actions under the Superfund program.

In addition to authorizing the conduct of such research and demonstration activities within the EPA, section 3(c) authorizes the Administrator, in carrying out the research and demonstration program, to enter into contracts and cooperative agreements with, and make grants to, persons, public entities, and nonprofit private entities.

While the bill specifies certain components to be included in the program, such as the technology transfer activities and field demonstrations, the bill largely grants the Administrator discretion in the direction and development of the research and demonstration program. To ensure a sound scientific basis as well as the application of the research results to actual clean-up activities, it is anticipated that both the Office of Research and Development and the Office of Emergency and Remedial Response would be involved with the program.

While the primary purpose of the program is to foster the development of alternative and innovative treatment technologies that can be used in remedial actions under Superfund, ancillary research needed to design, implement, or evaluate demonstrations of such technologies, such as site characterization, monitoring, and ecosystem damage assessment, would be appropriate activities under this section.

Under section 3(b), the Administrator is required to carry out, as a part of the overall program, technology transfer activities. Several witnesses indicated the importance of collecting information about alternative and innovative technologies in a central reference facility that would be readily accessible to the public and to interested persons. This section requires the Administrator to collect, evaluate, coordinate, and disseminate information relating to the use of alternative or innovative treatment technologies. As part of the information collection, the Administrator should collect and maintain data obtained from field demonstrations required under section 3(e) relating to the cost, efficacy, and safety of the alternative or innovative treatment technologies that were demonstrated. These technology transfer activities play an integral role in the development of new technologies by the private sector.

Information collected and maintained by the Administrator pursuant to this section is required to be made available to the public under the provisions of the Freedom of Information Act. The bill protects trade secrets and other proprietary information from public disclosure by providing for a process of petitioning the Administrator. This procedure is intended to balance public disclosure against a firm's interest in protecting commercially valuable trade secrets. In the same manner, the bill makes no distinction between technologies which are proprietary and those which are not.

Section 3(c) states that the Administrator is authorized to enter into contracts and agreements with, and make grants to, persons, public entities, and nonprofit private entities as defined in section 501(c)(3) of the Internal Revenue Code of 1954. By expanding on the definition of "person" contained in section 101(21) of CERCLA, which includes private for-profit firms, the Committee intends to make clear that universities, research centers, State and local governments, and other private nonprofit groups would be eligible to receive funding. Further, the Administrator would be able to sup-

port through contracts, agreements, or grants, a program or center to evaluate, test, or certify new technologies. Such a program, which could bring together experts from industry and academia, could also provide direct assistance to the Administrator in carrying out his responsibilities under the bill.

Section 3(c) states that the Administrator shall enter into appropriate cost-sharing arrangements to the maximum extent possible. Given the limited amount of funding available, and the relative expense of field demonstrations, cost-sharing becomes even more critical in funding field demonstrations. While the primary emphasis of the program should be on funding technologies which appear to hold the greatest promise, the agency should not ordinarily fund field demonstrations where the developers would appear to be able to otherwise conduct the project without EPA funding.

Section 3(d) directs the Administrator to provide research assistance in carrying out the provisions of the bill. A number of industry representatives testified as to the difficulty of obtaining information and assistance from the EPA in attempting to have new treatment technologies tested or evaluated by the EPA. The OTA Report reached similar conclusions and noted that EPA had no procedures for evaluating technologies other than conventional incineration. Section 3(d)(1) is intended to require the Administrator to establish procedures by which persons, public entities, or nonprofit private entities can be assured of obtaining information and assistance concerning the evaluation or testing of their technologies. This section does not require that EPA itself do the testing, or that EPA is required to test all technologies proffered. Rather, it simply requires the Administrator to provide information or assistance so that developers will know what procedures or protocols might be applicable. For example, the Administrator might refer the applicant to procedures for receiving grants, or to the protocols published under section 5 of the Act, or to testing, evaluation or certification services known to the Administrator.

Section (3)(d)(2) authorizes the Administrator to arrange for the use of Superfund sites for research and demonstration purposes, subject to such terms and conditions as the Administrator shall require for the protection of human health and the environment. Under this provision, the Administrator could make Superfund sites available for private research and testing. Section 3(d) is not intended, however, to affect the permit requirements or authority of the Solid Waste Disposal Act. Consequently, in some circumstances it might be necessary to obtain a research and development permit under section 3005 of that Act.

Section 3(e) requires the Administrator, as part of the overall research and demonstration program, to designate at least ten sites on the national priority list as appropriate for field demonstrations of alternative or innovative treatment technologies. If the Administrator cannot designate all ten sites in accordance with the selection criteria specified in the bill within a two year period, the Administrator is required to report to Congress on the reasons for his inability to designate the sites. Within twelve months after the designation of a site, a field demonstration shall begin, or cause to begin, a demonstration of alternative or innovative treatment technologies at such site.

The purpose of the requirement to designate sites is to encourage appropriate field demonstration activity. If new technologies are to be used in the Superfund program, field demonstrations are necessary to provide the data on efficacy, cost and safety in actual field conditions that will be required. Given the OTA Report's listing of twenty-six technologies in various stages of testing, and the need to develop such technologies as rapidly as possible, the Committee feels that the goal of ten sites is reasonable. Further, a demonstration program of ten sites will be adequate to signal to the private sector EPA's commitment to evaluating and using permanent treatment technologies, and help to stimulate private sector investment and research.

In designating any appropriate site, the Administrator is required to consider certain criteria contained in the bill. In essence, those criteria include the potential of a field demonstration for contributing to a solution of the most serious hazardous waste threats, the availability of promising technologies ready for field demonstration, the suitability of the sites for such demonstrations, and the likelihood that such demonstrations will generate information which will be applicable to other sites. These criteria were added by the Committee in response to EPA's concern that a requirement to designate one site in each EPA region, contained in H.R. 2802 as introduced, would not give the Administrator sufficient flexibility to choose appropriate sites. The sites shall be designated by the Administrator only after notice and a opportunity for public comment.

The Administrator need not designate all ten sites at once. However, if at the end of two years, ten sites have not been designated, subsection (e) requires the Administrator to submit a report to the appropriate Committees of Congress, setting forth the reasons for the failure to designate the ten sites.

In carrying out demonstration projects at the designated sites, the EPA is not required to conduct all of the demonstrations itself. Indeed, it is expected that the majority of the demonstrations will be conducted by researchers outside of the Agency. Further, some sites may be appropriate for more than one field demonstration, and for testing of more than one type of technology. Such determinations have been left largely to the Administrator's discretion.

Since such demonstrations are, by their nature, experimental, it is expected that other remedial response actions will be necessary to clean up the sites designated as demonstration sites under this section. In some cases, the demonstration may be part of a clean up strategy, while in other cases, a demonstration may precede clean up efforts. In this regard, it is not the Committee's intent that sites which are designated for field demonstrations should be reserved exclusively for research purposes and not cleaned up. Research and demonstration liability concerns are addressed by section 6 and are discussed below.

Section 3(f) defines the term "alternative or innovative treatment technologies" as technologies which permanently alter the composition of hazardous waste through chemical, biological, or physical means so as to significantly reduce the toxicity, mobility, or volume of the hazardous substances being treated.

Section 4—Reports to Congress

To assist the Congress in its oversight of the research and demonstration program established by the bill, Section 4 requires the Administrator to submit an annual report to Congress on the progress of the program. The report will include an evaluation of the demonstration projects undertaken, findings with respect to the efficacy of such demonstrated technologies in achieving permanant and significant reductions in risk from hazardous waste, and the potential applicability of, and project costs for, such technologies at other hazardous waste sites. In discussing the potential applicability of, and costs for, such technologies at other sites, the Administrator is required only to indicate to what extent the technology may be applicable to similar problems existing at other comparable sites, and would not be required to discuss applicability to different types of hazardous wastes.

In addition, if the total estimated Federal contribution to the cost of any field demonstration exceeds $5 million, the Administrator is required to provide a report on the project to Congress and to wait for 30 days before expending funds on the project. This provision will help ensure that the limited funds in the program are spent prudently.

Section 5—Testing Procedures and Standards

Both the OTA Report and testimony from industry representatives underscored the failure of EPA to provide guidance for the evaluation of technologies other than incineration. Firms which would be willing to underwrite the costs of testing and demonstration cannot do so without assurances from the EPA that such tests will provide the data that EPA needs to evaluate the technology. While the Committee understands the difficulty involved in developing test protocols and standards that have general application for alternative or innovative treatment processes, the bill encourages EPA to give higher priority to developing such protocols and standards by requiring such protocols and standards to be included as part of the National Contingency Plan.

Section 6—Response Authorities

As previously discussed, the present CERCLA provisions relating to the choice of remedial actions create incentives for EPA to choose removal and containment strategies over permanent treatment technologies. Section 6 of the bill addresses this concern directly by amending CERCLA to require the Administrator to choose such permanent treatment solutions to the "maximum extent practicable." Under this section, the Administrator would be required to assess a number of specified factors in determining the appropriate cost-effective remedial response, including long term maintenance costs and the long term uncertainties associated with land disposal. The emphasis on the consideration of long-term costs, which is consistent with EPA's recent policy statement on off-site response actions (May 6, 1985), should serve to make treatment technologies more competitive with removal and containment options.

The assessment required by Section 6 is identical to the provisions in Sec. 121(c) of H.R. 2817, the "Superfund Amendments Act of 1985", as amended and reported by the House Energy and Commerce Committee on August 1, 1985. (H. Rep. 99-253, Part 1). While your Committee has adopted the language accepted by the Energy and Commerce Committee, it sees no significant difference between the "maximum extent practicable" standard adopted and the "feasible and achievable" standard contained in H.R. 3065 as introduced. The Administrator is required to favor permanent treatment solutions over short-term removal and containment options if the permanent treatment technology is cost-effective, over the long-term. This factor is important since, in any single year, new technology to destroy hazardous waste would not succeed with the cost of storage, therefore, the cost competitiveness of destruction is when it is evaluated over time.

Section 7—Funding

Section 7 of the bill authorizes to be appropriated, for the five fiscal years beginning in 1986, no more than $25 million per year from the Trust Fund for the research and demonstration program established by the Act. The figure of $25 million was deemed appropriate by a number of witnesses testifying before the Subcommittee on Natural Resources, Agriculture Research and Environment. While the Committee agrees that the Trust Fund should be reserved for uses which are directly related to cleaning up abandoned hazardous waste sites, the Committee believes that the research and demonstration program authorized by the bill will be of direct benefit to Superfund clean-ups. Permanent clean-up technologies will enable EPA to clean up Superfund sites at lower long-term total costs than the use of temporary removal and containment measures.

Section 8—Liability of Persons Engaged in Field Demonstrations

Representatives of industry testified at the Subcommittee hearing that the spectre of joint, several, and strict liability under the Superfund law was inhibiting the use and development of innovative technologies at Superfund sites. Demonstrations of innovative technologies involve a risk that such technologies might fail to clean up a site, or might even contribute to a worsening of conditions at the site. EPA also expressed concern over the liability faced by researchers conducting demonstrations at Superfund sites under this program. Researchers might be reluctant to conduct field demonstrations if they are likely to face joint, several and strict liability for Superfund clean-up costs as a result of the demonstration failing.

To respond to EPA's concern and to encourage the use of innovative treatment technologies and field demonstrations, the bill exempts persons, public entities, and nonprofit private entities conducting field demonstrations from the strict, several, and joint liability imposed by CERCLA. Researchers would be liable only for damages caused by the researcher's negligence, or reckless or intentional misconduct. This standard of liability is the same as that

for "response action contractors" under H.R. 2817, the "Superfund Amendments of 1985", as amended, which was reported by the House Energy and Commerce Committee on August 1, 1985. To the extent that response action contractors choose an innovative technology to clean up a site, the limited liability provision of H.R. 2817 should apply.

Section 9—Small Business Participation

The Committee recognizes that many promising innovative and alternative hazardous waste treatment technologies have been, and will continue to be, developed by small, entrepreneurial business firms. Several new technologies developed by small business firms have been identified as showing great promise for future remedial actions.

However, according to testimony received during hearings on this legislation, several of these technologies face significant technical barriers before they can be successfully utilized in Superfund remedial activities. Thus this legislation specifies that the Administrator shall, to the maximum extent practicable, provide for adequate small business participation in the programs authorized under this section.

V. SECTIONAL SUMMARY OF THE BILL

Section 1. Short Title.

Section 2. Findings and Purpose. This section states that Congress finds that the EPA's practice of relying upon removal and containment measures does not provide permanent protection, and that containment measures does not provide permanent protection, and that new technologies which alter hazardous wastes to reduce toxicity, mobility, or volume can provide significantly greater permanent protection. This section also finds that various regulatory factors have often inhibited the use and development of new technologies, and that a sustained research, development and demonstration program is needed.

Section 3. Section 3 amends the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to establish a research, development and demonstration program at EPA for alternative or innovative treatment technologies to be used in Superfund clean-ups.

The program would include a technology transfer program. Information collected under the program will be publicly available, subject to the provisions of the Freedom of Information Act. Provisions to protect against the disclosure of trade secrets has been included.

The Act authorizes the Administrator to enter into contracts and to make grants with persons, public entities, and private nonprofit entities. The Administrator is directed to enter into appropriate cost-sharing arrangements.

Section 3 also directs the Administrator to provide research assistance and information, and to make sites available for research. Nothing under the act is intended to affect permit provisions required by the Resource Conservation and Recovery Act.

The Administrator is directed to designate, within two years, ten Superfund sites for field demonstrations of alternative or innova-

tive treatment technologies, according to specified criteria. If the Administrator cannot designate such sites, he is required to report back to Congress within the two year period on the reasons for the inability to do so. Field demonstrations at the designated sites are required to begin within a year of the designation of a site.

Section 4. This section requires the Administrator to provide an annual report to Congress on the progress of the research, development and demonstration program. It also requires Congressional review of any field demonstration estimated to cost more than $5 million in federal funds.

Section 5. This section amends CERCLA to require EPA to publish in its National Contingency Plan test procedures and standards by which alternative or innovative treatment technologies can be determined to be appropriate for use in Superfund clean-ups.

Section 6. This section amends CERCLA by requiring the EPA Administrator to assess a number of factors when selecting remedial measures, and requires the Administrator to select permanent measures, and alternative or innovative treatment technologies, to the maximum extent practicable.

Section 7. This section amends CERCLA to permit the use of Superfund Trust Fund monies for the research and demonstration program established by the Act. The bill provides for funding of no more than $25 million for the five fiscal years 1986–1990.

Section 8. This section provides for an exemption from the strict, several and joint liability of the Superfund law for field demonstrations of alternative and innovative technologies under this research program. Researchers would share the same liability for negligence that would be shared by other response action contractors under H.R. 2817, as amended and reported by the Energy and Commerce Committee.

Section 8 also requires EPA to provide a report to Congress on the impact of liability and other requirements imposed by CERCLA on the development and use of alternative or innovative treatment technologies.

Section 9. This section requires the Administrator, to the maximum extent practicable, to afford an adequate opportunity for participation by small businesses in the program established by the bill.

VI. CONGRESSIONAL BUDGET ACT INFORMATION

The bill provides for new authorization rather than new budget authority and consequently the provisions of section 308(a) of the Congressional Budget Act are not applicable.

VII. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, July 31, 1985.

Hon. DON FUQUA,
Chairman on Science and Technology, House of Representatives, Rayburn House Office Building, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for H.,R. 3065, The Superfund Clean-up Technology Research and Demonstration Act.

If you wish further details on this estimate, we will be pleased to provide them.

With best wishes,

Sincerely,

RUDOLPH G. PENNER.

CONGRESSIONAL BUDGET OFFICE—COST ESTIMATE

1. Bill number: H.R. 3065.

2. Bill title: The Superfund Clean-up Technology Research and Demonstration Act.

3. Bill status: As ordered reported by the House Committee on Science and Technology, July 25, 1985.

4. Bill purpose: This bill establishes a research and demonstration program within the Environmental Protection Agency (EPA) for alternative treatment technologies for hazardous wastes subject to actions under the Superfund program. The EPA Administrator is authorized to enter into contracts and cooperative agreements and make grants to carry out the purposes of this bill. The bill authorizes appropriations of up to $25 million from the Hazardous Substance Response Trust Fund in each of the fiscal years 1986 through 1990.

The Administrator is authorized to set up a program for technology transfer and is required, over two years, to designate ten sites for field demonstrations of new technologies. The EPA is required to publish standards and procedures by which alternative treatment technologies will be determined to be appropriate for use of Superfund monies.

5. Estimated cost to the Federal Government:

[By fiscal years, in millions of dollars]

	1986	1987	1988	1989	1990
Authorization level	25	25	25	25	25
Estimated outlays	7	25	25	25	25

The costs of this bill fall within budget function 300.

Basis of estimate: For the purpose of this estimate, it is assumed that all funds authorized are appropriated prior to the beginning of the fiscal year and that funds are obligated and disbursed in the same manner as similar programs currently in place.

6. Estimated cost to state and local governments: None.

7. Estimate comparison: None.
8. Previous CBO estimate: None.
9. Estimate prepared by: Paul M. DiNardo.
10. Estimate approved by: James L. Blum, Assistant Director for Budget Analysis.

VIII. OVERSIGHT FINDINGS AND RECOMMENDATIONS, COMMITTEE ON GOVERNMENT OPERATIONS

No findings and recommendations on oversight activity pursuant to Rule X, Clause (2)(b), and Rule XI, Clause 2(l)(3), of the Rules of the House of Representatives, have been submitted by the Committee on Government Operations for inclusion in this report.

IX. OVERSIGHT FINDINGS AND RECOMMENDATIONS, COMMITTEE ON SCIENCE AND TECHNOLOGY

Pursuant to Rule XI, Clause 2(l)(3) of the Rules of the House of Representatives, and under the authority of Rule X, Clause 2(b)(1) and Clause 3(f), the results and findings of oversight activities considered by the Committee on Science and Technology are incorporated in the recommendations found in the present bill and report.

X. EFFECT OF LEGISLATION ON INFLATION

In accordance with Rule XI, Clause 2(l)(4), of the Rules of the House of Representatives, this legislation is assessed to have no adverse inflationary or prices and costs in the operation of the national economy.

XI. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with Rule XIII, clause 3, of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman, and large unchanged blocks of existing law is indicated by * * *):

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980

AN ACT To provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup on inactive hazardous waste disposal sites

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980".

TITLE I—HAZARDOUS SUBSTANCES RELEASES, LIABILITY, COMPENSATION

* * * * * * *

RESPONSE AUTHORITIES

SEC. 104. (a)(1) * * *

* * * * * * *

(c)(1) * * *

* * * * * * *

(4) The President shall select appropriate remedial actions determined to be necessary to carry out this section which are to the extent practicable in accordance with the national contingency plan and which provide for that cost-effective response which provides a balance between the need for protection of public health and welfare and the environment at the facility under consideration, and the availability of amounts from the Fund established under title II of this Act to respond to other sites which present or may present a threat to public health or welfare or the environment, taking into consideration the need for immediate action. *Any remedial action selected under section 104 for a facility at which a release or threatened release occurs shall require that level or standard of control of each hazardous substance or pollutant or contaminant at that facility which is necessary to protect human health and environment. In selecting a remedial action under section 104, the Administrator shall evaluate alternatives which achieve the requirements of the preceding sentence and shall assess the cost-effectiveness of such alternatives. In making such assessment, the Administrator shall specifically assess the long-term effectiveness of various alternatives, including an assessment of permanent solutions and alternative or innovative treatment technologies or resource recovery technologies that, in whole or in part, will result in a permanent and significant decrease in the toxicity, mobility, or volume of the hazardous substance, pollutant, or contaminant, taking into account each of the following:*

(A) The long-term uncertainties associated with land disposal.

(B) The goals, objectives, and requirements of the Solid Waste Disposal Act.

(C) The persistence, degradability in nature, toxicity, mobility, and propensity to bioaccumlate of such hazardous substances and their constituents.

(D) The potential threat to human health and the environment associated with excavation, transportation, and redisposal.

(E) Short- and long-term potential for adverse health effects from human exposure.

(F) Long-term maintenance costs.

Following an evaluation under this subsection, the Administrator shall select that cost-effective remedial action which, to the maximum extent practicable, utilizes such permanent solutions and alternative or innovative treatment technologies or resource recovery technologies.

* * * * * * *

NATIONAL CONTINGENCY PLAN

SEC. 105. Within one hundred and eighty days after the enactment of this Act, the President shall, after notice and opportunity

for public comments, revise and republish the national contingency plan for the removal of oil and hazardous substances, originally prepared and published pursuant to section 311 of the Federal Water Pollution Control Act, to reflect and effectuate the responsibilities and powers created by this Act, in addition to those matters specified in section 311(c)(2). Such revision shall include a section of the plan to be known as the national hazardous substance response plan which shall establish procedures and standards for responding to releases of hazardous substances, pollutants, and contaminants, which shall include at a minimum.

(1) * * *

* * * * * * *

(8)(A) * * *

(B) based upon the criteria set forth in subparagraph (A) of this paragraph, the President shall list as part of the plan national priorities among the known releases or threatened releases throughout the United States and shall revise the list no less often than annually. Within one year after the date of enactment of this Act, and annually thereafter, each State shall establish and submit for consideration by the President priorities for remedial action among known releases and potential releases in that State based upon the criteria set forth in subparagraph (A) of this paragraph. In assembling or revising the national list, the President shall consider any priorities established by the States. To the extent practicable, at least four hundred of the highest priority facilities shall be designated individually and shall be referred to as the "top priority among known response targets", and, to the extent practicable, shall include among the one hundred highest priority facilities at least one such facility from each State which shall be the facility designated by the State as presenting the greatest danger to public health or welfare or the environment among the known facilities in such State. Other priority facilities or incidents may be listed singly or grouped for response priority purposes; [and]

(9) specified roles for private organizations and entities in preparation for response and in responding to release of hazardous substances, including identification of appropriate qualifications and capacity therefor[.] *; and*

(10) standards and testing procedures by which alternative or innovative treatment technologies can be determined to be appropriate for utilization in remedial actions authorized by this Act.

* * * * * * *

USES OF FUND

SEC. 111. (a) The President shall use the money in the Fund for the following purposes:

(1) payment of governmental response costs incurred pursuant to section 104 of this title, including costs incurred pursuant to the Intervention on the High Seas Act;

(2) payment of any claim for necessary response costs incurred by any other person as a result of carrying out the national contingency plan established under section 311(c) of the Clean Water Act and amended by section 105 of this title: *Provided, however,* That such costs must be approved under said plan and certified by the responsible Federal official;

(3) payment of any claim authorized by subsection (b) of this section and finally decided pursuant to section 112 of this title, including those costs set out in subsection 112(c)(3) of this title; [and]

(4) payment of costs specified under subsection (c) of this section[.] *; and*

(5) the cost of carrying out section 116 (relating to research, development, and demonstration of alternative and innovative treatment technologies).

The President shall not pay for any administrative costs or expenses out of the Fund unless such costs and expenses are reasonably necessary for and incidental to the implementation of this title.

* * * * * * *

(e)(1) * * *

[(2) In any fiscal year, 85 percent of the money credited to the Fund under title II of this Act shall be available only for the purposes specified in paragraphs (1), (2), and (4) of subsection (a) of this section.]

(2) For reservation of certain amounts appropriated to the Fund established under title II for specific purposes, see section 221(c)(2).

* * * * * * *

(m) RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM.—There is authorized to be appropriated for each of the fiscal years 1986, 1987, 1988, 1989, and 1990, from sums appropriated or transferred to the Hazardous Substance Response Trust Fund established under section 221, not more than $25,000,000 to be used for purposes of carrying out the research, development, and demonstration program for alternative or innovative technologies authorized under section 116. Amounts made available under this subsection shall remain available until expended.

* * * * * * *

SEC. 116. ALTERNATIVE OR INNOVATIVE TREAMENT TECHNOLOGY RESEARCH, EVALUATION AND DEMONSTRATION PROGRAM.

(a) ESTABLISHMENT OF PROGRAM.—The Administrator is authorized and directed to carry out a program of research, evaluation, testing, development, and demonstration of alternative or innovative treatment technologies which may be utilized in remedial actions to achieve more permament protection of the public health and welfare and the environment.

(b) TECHNOLOGY TRANSFER.—In carrying out the program established in subsection (a) the Administrator shall conduct a technology transfer program, including the development, collection, evaluation, coordination and dissemination of information relating to the utilization of alternative or innovative treatment technologies for remedial actions. The Administrator shall establish and maintain a

central reference library for such information. The information maintained by the Administrator shall be made available to the public, subject to the provisions of section 552 of title 5 of the United States Code and section 1905 of title 18 of the United States Code, and to other Government agencies in a manner that will facilitate its dissemination: Provided, That upon a showing satisfactory to the Administrator by any person that any information, or portion thereof, obtained under this section by the Administrator directly or indirectly from such person, would, if made public, divulge—

(1) trade secrets; or

(2) other proprietary information of such person, the Administrator shall not disclose such information and disclosure thereof shall be punishable under subsection 1905 of title 18 of the United States Code. This subsection is not authority to withhold information from Congress or any committee of Congress upon request of the Chairman.

(c) CONTRACTS AND GRANTS.—In carrying out activities under subsection (a), the Administrator is authorized to enter into contracts and cooperative agreements with, and make grants to, persons, public entities, and nonprofit private entities (as defined by section 501(c)(3) of the Internal Revenue Code of 1954, 26 U.S.C. 501(c)(3)). The Administrator shall, to the maximum extent possible, enter into appropriate cost-sharing arrangements under this section.

(d) RESEARCH ASSISTANCE.—

(1) ASSISTANCE AND INFORMATION.—The Administrator may, consistent with the provisions of this section, provide assistance or information to persons, public entities, and nonprofit private entities who wish to have alternative and innovative treatment technologies tested or evaluated for utilization in remedial activities.

(2) USE OF SITES.—The Administrator may arrange for the use of sites listed as national priority sites under section 105(8)(B) for the purposes of research, testing, evaluation, development, and demonstration, under such terms and conditions as the Administrator shall require to assure the protection of human health and the environment.

(3) SAVING PROVISION.—Nothing in this Act shall be construed to affect the provisions of the Solid Waste Disposal Act.

(e) DESIGNATION OF DEMONSTRATION SITES.—In carrying out the program authorized by this section, the Adminstrator shall, within 2 years after the date of enactment of this section, and after notice and an opportunity for public comment, designate at least 10 sites listed under section 105(8)(B) as appropriate for field demonstrations of alternative or innovative treatment technologies. If the Administrator determines that 10 sites cannot be designated consistent with the criteria of this subsection, he shall within the 2-year period report to the appropriate committees of Congress explaining the reasons for his inability to designate such sites. Within 12 months after designation of a site, the Administrator shall begin or cause to begin a demonstration of alternative or innovative treatment technologies at such site. In designating such sites, the Administrator shall, consistent with the protection of human health and the environment, consider each of the following criteria:

(1) The potential for contributing to solutions to those waste problems which pose the greatest threat to human health, which cannot by adequately controlled under present technologies, or which otherwise pose significant management difficulties.

(2) The availability of technologies which have been sufficiently developed for field demonstration and which are likely to be cost-effective and reliable.

(3) The suitability of the sites for demonstrating such technologies, taking into account the physical, biological, chemical, and geological characteristics of the sites, the extent and type of contamination found at the sites, and the capability to conduct demonstrations in such a manner as to assure the protection of human health and the environment.

(4) The likelihood that the data to be generated from the demonstration at the site will be applicable to other sites.

(f) DEFINITION.—For the purposes of this section, the term "alternative or innovative treatment technologies" means those technologies which permanently alter the composition of hazardous waste through chemical, biological, or physical means so as to significantly reduce the toxicity, mobility, or volume (or any combination thereof) of the hazardous waste or contaminated materials being treated.

SEC. 117. LIABILITY FOR FIELD DEMONSTRATIONS.

(a) LIABILITY OF PERSONS CONDUCTING FIELD DEMONSTRATIONS.—

(1) IN GENERAL.—Notwithstanding the provisions of section 114, no person, public entity, or nonprofit private entity, in the course of conducting field demonstrations pursuant to section 116 of this title, shall be liable under this title, under any other Federal law, under the law of any State or political subdivision, or under common law to any person for injuries, costs, damages, expenses, or other liability (including but not limited to claims for indemnification or contribution and claims by third parties for death, personal injury, illness or loss of or damage to property or economic loss) which results from a release or threatened release from a facility as a result of such field demonstration.

(2) NEGLIGENCE, ETC.—Paragraph (1) shall not apply in the case of a release that was caused by conduct of the person, public entity, or nonprofit private entity conducting field demonstrations which was negligent, reckless, or intentional misconduct.

(3) PERSONS RETAINED OR HIRED.—Any person retained or hired, by a person, public entity, or nonprofit private entity conducting field demonstrations pursuant to section 116, to provide any services relating to such field demonstration shall have the same exemption from liability provided to the person, public entity, or nonprofit private entity conducting said field demonstration.

(b) SAVINGS PROVISIONS.—

(1) LIABILITY OF OTHER PERSONS.—Nothing in this subsection shall affect the iiability under this Act or under any other authority of Federal or State law of any person other than a

person, public entity, or non-profit private entity conducting a field demonstration pursuant to section 116 of this title.

(2) BURDEN OF PLAINTIFF.—Nothing in this section shall affect the plaintiff's burden of establishing the liability under this title.

(c) EXCEPTION TO EXEMPTION.—The exemption provided under subsection (a) shall not apply to any person covered by the provisions of paragraph (1), (2), (3), or (4) of section 107(a) with respect to the release or threatened release concerned if such persons would be covered by such provisions even if he had not carried out any actions referred to in subsection (d) of this section.

(d) DEFINITION.—For the purpose of this section, a person, public entity, or nonprofit private entity is "conducting a field demonstration pursuant to section 116 of this title" if such entity or person is carrying out a written contract or agreement with—

(1) the Administrator;

(2) any other Federal agency;

(3) a State; or

(4) any responsible party;

to conduct demonstrations at sites listed under section 105(8)(B) of alternative or innovative treatment technologies as defined in section 116(c).

(e) STUDY.—Within one year from the date of the enactment of this section, the Administrator shall transmit to Congress a study of the effects of the standards of liability and financial responsibility requirements imposed by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 on the cost of, and incentives for, developing and demonstrating alternative and innovatve treatment technologies.

TITLE II—HAZARDOUS SUBSTANCE RESPONSE REVENUE ACT OF 1980

* * * * * * *

Subtitle B—Establishment of Hazardous Substance Response Trust Fund

SEC. 221. ESTABLISHMENT OF HAZARDOUS SUBSTANCE RESPONSE TRUST FUND.

(a) CREATION OF TRUST FUND.—There is established in the Treasury of the United States a trust fund to be known as the "Hazardous Substance Response Trust Fund" (hereinafter in this subtitle referred to as the "Response Trust Fund"), consisting of such amounts as may be appropriated or transferred to such Trust Fund as provided in this section.

(b) TRANSFERS TO RESPONSE TRUST FUND.—

(1) AMOUNTS EQUIVALENT TO CERTAIN TAXES, ETC.—There are hereby appropriated, out of any money in the Treasury not otherwise appropriated, to the Response Trust Fund amounts determined by the Secretary of the Treasury (hereinafter in this subtitle referred to as the "Secretary") to be equivalent to—

(A) the amounts received in the Treasury under section 4611 or 4661 of the Internal Revenue Code of 1954,

(B) the amounts recovered on behalf of the Response Trust Fund under this Act,

(C) all moneys recovered or collected under section 311(b)(6)(B) of the Clean Water Act,

(D) penalties assessed under title I of this Act, and

(E) Punitive damages under section 107(c)(8) of this Act.

(2) AUTHORIZATION FOR APPROPRIATIONS.—There is authorized to be appropriated to the Emergency Response Trust Fund for fiscal year—

(A) 1981, $44,000,000,

(B) 1982, $44,000,000,

(C) 1983, $44,000,000,

(D) 1984, $44,000,000, and

(E) 1985, $44,000,000, plus an amount equal to so much of the aggregate amount authorized to be appropriated under subparagraphs (A), (B), (C), and (D) as has not been appropriated before October 1, 1984.

(3) TRANSFER OF FUNDS.—There shall be transferred to the Response Trust Fund—

(A) one-half of the unobligated balance remaining before the date of the enactment of this Act under the Fund in section 311 of the Clean Water Act, and

(B) the amounts appropriated under section 504(b) of the Clean Water Act during any fiscal year.

(c) EXPENDITURES FROM RESPONSE TRUST FUND.—

(1) IN GENERAL.—Amounts in the Response Trust Fund shall be available in connection with releases or threats of releases of hazardous substances into the environment only for purposes of making expenditures which are described in section 111 (other than section (j) thereof) of this Act, [as in effect on the date of the enactment of this Act,] including—

(A) response costs,

(B) claims asserted and compensable but unsatisfied under section 311 of the Clean Water Act,

(C) claims for injury to, or destruction or loss of, natural resources, [and]

(D) related costs described in section 111(c) of this Act[.], *and*

(E) the cost of carrying out section 116 (relating to research, development, and demonstration of alternative and innovative treatment technologies).

(2) LIMITATIONS ON EXPENDITURES.—At least 85 percent of the amounts appropriated to the Response Trust Fund under subsection (b)(1)(A) and (2) shall be reserved *for the purposes specified in section 116 and*—

(A) for the purposes specified in paragraphs (1), (2), and (4) of section 111(a) of this Act, and

(B) for the repayment of advances made under section 223(c), other than advances subject to the limitation of section 223(c)(2)(C).

* * * * * * *

XII. ADDITIONAL VIEWS

ADDITIONAL VIEWS OF HON. F. JAMES SENSENBRENNER, JR.

The Superfund Clean-up Technology Research and Demonstration Act (H.R. 3065) provides incentives for the examination of a wide range of alternative and innovative technologies which would allow our nation to seek permanent solutions to the problems of hazardous waste.

Several new technologies developed by small business firms have been identified as showing great promise for future remedial actions. During full committee markup of H.R. 3065, I offered an amendment which would encourage the EPA Administrator to take a closer look at hazardous waste treatment technologies developed by small entrepreneurial business firms.

This amendment, which was adopted by a voice vote, adds a new Section 9 to the bill which simply requires the Administrator of EPA to the maximum extent practicable to provide adequate opportunity in other R&D authorizations that this committee has approved in the past. I think it is a valuable addition so small business can get a slice of the pie the Committee has authorized. In addition, my amendment was offered in order to encourage the Thomas Edisons of hazardous waste.

Although I feel my amendment has done the job of underscoring the need for the EPA to take a closer look at small business ventures, there are two major points relating to my amendment which should be considered by the EPA. First is that the contracts should not be so large as to be beyond the capacity of small business to bid. Second, information should be spread through the small business community so they will be fully aware of what types of opportunities there are to bid on contracts.

Finally, let me emphasize that this is not a mandatory set-aside. It does not impose any burdens on any agency aside from the EPA, thereby eliminating any jurisdictional problems or the necessity of obtaining a sequential referral of this bill once it is reported by this committee.

F. JAMES SENSENBRENNER, Jr.

ADDITIONAL VIEWS OF HON. ROBERT C. SMITH

I strongly support the Committee's decision to pass H.R. 3065, the Superfund Clean-up Technology Research and Demonstration Act of 1985 and commend Congressman Torricelli for his thoughtful approach to this legislation. Hazardous waste contamination is a critical priority as it is the most prevalent and serious environmental threat facing the United States. The demonstration program created by this legislation is of vital importance to address the clean up of hazardous waste sites in the State of New Hampshire and throughout the nation.

H.R. 3065 provides needed incentive for the examination of a wide range of alternative and innovative technologies that would allow our nation to seek permanent solutions to this critical environmental problem. H.R. 3065 would provide needed encouragement to help our nation shift from land disposal practices to alternative technologies which reduce the risk of further hazardous waste contamination.

Contrary to the belief of some, hazardous waste contamination is not just an urban, industrial problem. Hazardous waste contamination has created significant problems in rural areas of the Northeast. The towns of New Hampshire and other primarily rural states are deeply affected by hazardous waste groundwater contamination in particular. I have visited many of these rural hazardous waste sites, and in my meetings with local town citizens and officials, one of their top concerns is groundwater contamination resulting from hazardous waste sites in their areas. There are hundreds of citizens in rural areas who are the victims of hazardous waste contamination because of the way contaminated plumes spread underground to residential wells and municipal water supplies. I commend local officals in New Hampshire for making this issue a priority in their towns, and I certainly want the victims of hazardous waste contamination to know of my commitment and the Committee's commitment to see this grave matter addressed in Superfund's reauthorization through passage of H.R. 3065.

I perhaps feel as strongly about this issue as anyone else in Congress. The State of New Hampshire has thirteen sites on or proposed for addition to Superfund's National Priority List, and eleven of those sites are in the First District of New Hampshire which I represent. Given the known, expensive costs of groundwater treatment which will be needed at many sites in my district, it is in my state's best interest to encourage the development of permanent technologies to address this problem and reduce the cost of groundwater treatment wherever this procedure is to be used.

Without permanent solutions, I am sincerely afraid that our present hazardous waste management and clean-up methods are not nearly adequate to meet the challenge posed by this grave environmental problem. It makes no sense to clean up one waste site

and create another one in the process. Underestimating national clean-up needs could result in continued escalation of this environmental crisis when we have the technology to address the issue of permanent clean up now.

A recent OTA report on Superfund showed that EPA is heavily reliant on removal of contaminants to RCRA permitted facilities or containment barriers as methods to clean up hazardous waste sites. Repeated costs are inevitable with these types of actions and environmentally, risks could be transferred from one community to another, and to future generations. The OTA report argues that permanent clean up technologies would, in the long term, be more cost-effective and provide greater protection than currently existing approaches that might rely upon remedial disposal and containment.

This legislation authorizes $25 million out of the hazardous waste Trust Fund for establishing a program within EPA to promote the development and use of alternative and innovative clean up technologies at Superfund sites throughout the nation. This legislation is consistent with testimony received by the Committee and also a recent CBO report which recommends that accelerated research and development in advancing hazardous waste remedial measures is necessary to help achieve greater levels of environmental health and public safety. This legislation further recognizes that the current EPA practice of relying on storage and containment measures to clean up hazardous waste sites does not significantly and permanently reduce the risk of the release of hazardous substances into the environment.

According to testimony received by the Subcommittee on Natural Resources, Agriculture Research and Environment, EPA has earmarked relatively insignificant amounts of funding on clean-up technology research development and testing. To date, EPA has not demonstrated the major commitment to assist in development of innovative and alternative hazardous waste clean-up technology. Considering the large cost of the overall Superfund problem, advocating a fiscally prudent sum on development of alternative and innovative clean up technologies offers considerable economic advantages in the long-term.

In addition, this legislation may also help overcome some of the key institutional barriers to the successful use of these new technolgies. There are at least 26 alternative and innovative technologies eagerly waiting to be made available for testing and use in remedial clean-up of Superfund sites. This demonstration program more than pays for itself in terms of the incentive it provides for the use of these needed alternative and innovative clean up technologies and in responsibly addressing the problem of hazardous waste contamination in the United States. H.R. 3065 is a crucial step forward in any comprehensive Superfund reauthorization approach.

ROBERT C. SMITH.

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